

EXHIBIT

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Smith Economics Group, Ltd.

A Division of Corporate Financial Group

Economics / Finance / Litigation Support

*Stan V. Smith, Ph.D.
President*

August 14, 2019

Mr. John M. Eubanks
Motley Rice
28 Bridgeside Blvd.
Mt. Pleasant, SC 29464

Re: Menchaca

Dear Mr. Eubanks:

You have asked me to calculate the value of certain losses subsequent to the death of Dora Menchaca. These losses are: (1) the loss of wages and employee benefits; (2) the loss of Unexercised Stock Options; (3) the loss of housekeeping and household management services; and (4) the loss of the value of life ("LVL"), also known as loss of enjoyment of life.

QUALIFICATIONS AND EXPERIENCE

I am President of Smith Economics Group, Ltd., headquartered in Chicago, IL, which provides economic and financial consulting nationwide. I have worked as an economic and financial consultant since 1974, after completing a Research Internship at the Federal Reserve, Board of Governors, in Washington, D.C. My curriculum vitae lists all my publications in the last 10 years and beyond.

I received my Bachelor's Degree from Cornell University. I received a Master's Degree and my Ph.D. in Economics from the University of Chicago; Gary S. Becker, Nobel Laureate 1992, was my Ph.D. thesis advisor. The University of Chicago is one of the world's preeminent institutions for the study of economics, and the home of renowned research in the law and economics movement.

As President of Smith Economics, I have performed economic analyses in a great variety of engagements, including damages analysis in personal injury and wrongful death cases, business valuation, financial analysis, antitrust, contract losses, a wide range of class action matters, employment discrimination, defamation, and intellectual property valuations including evaluations of reasonable royalty.

I have more than 40 years of experience in the field of economics. I am a member of various economic associations and served for three years as Vice President of the National Association of Forensic Economics (NAFE) which is the principal association in the field. I was also on the Board of Editors of

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the peer-reviewed journal, the Journal of Forensic Economics, for over a decade; I have also published scholarly articles in this journal. The JFE is the leading academic journal in the field of Forensic Economics.

I am the creator and founder of Ibbotson Associates' Stock, Bonds, Bills, and Inflation (SBBI) Yearbook, Quarterly, Monthly, and SBBI/PC Services. SBBI is currently published by Duff & Phelps and is also available on various Morningstar, Inc. software platforms. SBBI is widely relied upon and regarded as the most accepted and scholarly reference by the academic, actuarial and investment community, and in courts of law. The SBBI series, which acknowledges my "invaluable role" as having "originated the idea" while Managing Director at Ibbotson Associates, is generally regarded by academics in the field of finance as the most widely accepted source of statistics on the rates of return on investment securities.

I wrote the first textbook on Forensic Economic Damages that has been used in university courses in various states; as an adjunct professor, I created and taught the first course in Forensic Economics nationwide, at DePaul University in Chicago. I have performed economic analysis in many thousands of cases in almost every state since the early 1980s.

BACKGROUND

Dora Menchaca, Ph.D. was a 45.3-year-old, Caucasian, married female, who was born on [REDACTED] and died on September 11, 2001. Dr. Menchaca's remaining life expectancy is estimated at 37.6 years. This data is from the National Center for Health Statistics, United States Life Tables, 2015, Vol. 67, No. 7, National Vital Statistics Reports, 2018. I assume an estimated trial or resolution date of January 1, 2020.

In order to perform this evaluation, I have reviewed the following materials: (1) tax records for Earl Dorsey and Dora Menchaca from 1999 through 2001; (2) employment records for Dora Menchaca from AMGEN; and (3) the case information form.

My methodology for estimating the losses, which is explained below, is generally based on past wage growth, interest rates, and consumer prices, as well as studies regarding the value of life. The effective net discount rate using statistically average wage growth rates and statistically average discount rates is 0.25 percent.

My estimate of the real wage growth rate is 1.00 percent per year. This growth rate is based on Business Sector, Hourly Compensation growth data from the Major Sector Productivity and Costs Index found at the U.S. Bureau of Labor Statistics website

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at www.bls.gov/data/home.htm, Series ID: PRS84006103, for the real increase in wages primarily for the last 20 years.

My estimate of the real discount rate is 1.25 percent per year. This discount rate is based on primarily the rate of return on short-term U.S. Treasury investment for the last 20 years. The data is from the statistical series H.15 Selected Interest Rates, published by the Board of Governors of the Federal Reserve System found at www.federalreserve.gov. This data is also published in the Economic Report of the President Table for "Bond yields and interest rates" for the real return on U.S. Treasury investments.

Estimates of real growth and discount rates are net of inflation based on the Consumer Price Index (CPI-U), published in monthly issues of the U.S. Bureau of Labor Statistics, CPI Detailed Report (Washington, D.C.: U.S. Government Printing Office) and available at the U.S. Bureau of Labor Statistics website at www.bls.gov/data/home.htm, Series ID: CUUR0000SA0. The rate of inflation for the past 20 years has been 2.16 percent.

I. LOSS OF WAGES AND EMPLOYEE BENEFITS - Annual Employment

Tables 1 through 9 show the loss of wages and benefits for Dora Menchaca, Ph.D.. Dr. Menchaca was an Associate Director for Clinical Research with AMGEN. A September 12, 2001 memo to all AMGEN staff states that Dr. Menchaca served as the Clinical Studies Management Team Leader for Stem Cell Factor, MGDF, and Abarelix, and was meeting with the FDA on AMGEN business shortly before she died. The employment file indicates that Dr. Menchaca was promoted from Associate Director, Clinical Affairs to Associate Director, Clinical Research in March 2000, and began working at AMGEN in July 1991. Her CV indicates that Dr. Menchaca earned her Ph.D. in Epidemiology, Minor in Microbiology & Immunology from the UCLA School of Public Health, and previously earned a Master's of Science in Public Health from UNC Chapel Hill.

Payroll records from AMGEN indicate that at the time of her death Dr. Menchaca earned a semi-monthly base salary of \$6,068.52, which on an annual basis is equal to \$145,644. In addition to her base salary the payroll records indicate that in 2001 prior to her death Dr. Menchaca received incentive payments of \$26,476 in cash, and \$358,982 in stock, for incentive payments totalling \$385,458 in 2001. Total earnings for Dr. Menchaca of base salary and incentive payments in 2001 are estimated to be \$531,102.

I illustrate the wage loss of Dr. Menchaca for the remainder of 2001 at \$145,644 based on base salary at the time of her death. In 2002 and thereafter the wage loss for Dr. Menchaca is illustrated at \$531,102 per year in year 2001 dollars based on her 2001 base salary and incentive payments. The wage loss is

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grown at the national average wage growth rate of 2.05 percent in 2002, 5.27 percent in 2003, 4.41 percent in 2004, 3.04 percent in 2005, 3.89 percent in 2006, 4.08 percent in 2007, 2.94 percent in 2008, 1.05 percent in 2009, 1.23 percent in 2010, 0.52 percent in 2011, 5.87 percent in 2012, zero percent in 2013, 2.57 percent in 2014, 2.46 percent in 2015, 2.14 percent in 2016, 3.01 percent in 2017, 2.92 percent in 2018, and an estimated national average wage growth rate of 3.0 percent in 2019 and 2020. Future wages are grown at a 1.0 percent real rate.

Employee benefit estimates are based on data from the U.S. Department of Labor, Bureau of Labor Statistics, Employer Cost of Employee Compensation - December 2018, 2019, found at www.bls.gov/ect. I have assumed that employee benefits grow at the same rate as wages and are discounted to present value at the same discount rate. Since these tables assume annual work, I do not include employee benefits relating to unemployment, injury, illness or disability. Insurance benefits are illustrated at \$9,443 in year 2018 dollars based on the average annual employer insurance contribution for employees in the Management, Professional, and related fields. This is equal to 1.12 percent of Dr. Menchaca's earnings which are estimated to be \$846,408 in 2018. Retirement benefits are illustrated at 8.9 percent of wages based on the average for employees in the Management, Professional, and related fields. Legally-required employer Social Security contributions are illustrated at 6.2 percent of wages up to the annual maximum of which was \$80,400 in 2001, which is equal to 0.94 percent of Dr. Menchaca's estimated 2001 total earnings of \$531,102. Total benefits are estimated at 10.95 percent of earnings.

Personal consumption is an offset of the income. I use a personal consumption offset based on a study by Ruble, Patton, and Nelson, "Patton-Nelson Personal Consumption Tables 2011-12," Journal of Legal Economics, Vol. 21, No. 1, 2014, pp. 41-55, based on data from the U.S. Department of Labor, Bureau of Labor Statistics, "Consumer Expenditure Survey, 2011-12," Washington DC, 2012, which shows personal consumption in this case for a four-person household to be 9.10 percent of wages in 2001 through 2004; 10.30 percent of wages for a three-person household in 2005 through 2018; and 13.00 percent of wages for a two-person household in 2019 and thereafter.

I assume annual employment each year and show the accumulation through life expectancy. While these tables are calculated through the end of life expectancy, the losses from working through any age can be read off the table.

Based on the above assumptions, my opinion of the wage loss is \$28,927,304 ► Table 9; this figure assumes work to age 82.9, but the ability to work through any assumed age may be read from Table 9; for example, the loss to age 67 is \$16,161,117.

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II. LOSS OF UNEXERCISED STOCK OPTIONS

Through her employment with AMGEN Dr. Menchaca was awarded stock options as part of her compensation package. Records from AMGEN, Inc. indicate that Dr. Menchaca was granted 211,678 share options during her career with the company, and before her death exercised 137,168 share options, with 74,510 share purchase options exercisable at the time of her death. These options generally have a vesting schedule of one quarter of the options awarded vesting one, two, three, and four years from the date of award, and the options expiring seven years from the date of award. The share purchase options have varying prices per award. Of the 74,510 vested share purchase options exercisable for Dr. Menchaca at the time of her death, 67,185 were awarded at a price which was less than the market share price for AMGEN stock as of September 11, 2001. The share price of AMGEN closed at \$64.13 per share on September 10, 2001; this is according to the AMGEN Investor Relations "Stock Quote & Chart" available at investors.amgen.com/stock-information/stock-quote-chart.

Based on the market exchange price of \$64.13, the option award exchange prices, and the number of exercisable shares at below market price, the value of Dr. Menchaca's unexercised stock options at the time of her death is \$2,935,786.

III. LOSS OF HOUSEHOLD/FAMILY HOUSEKEEPING AND HOUSEHOLD MANAGEMENT SERVICES

Tables 10 through 12 show the pecuniary loss of tangible housekeeping chores and household management services. The number of hours of housekeeping and household management services is illustrated at 19.68 hours per week from 2001 through 2018 for married women who work full-time and have children in the household; at 19.26 hours per week from 2019 through 2023 for married women who work full-time and do not have children in the household; and 29.49 hours per week in 2024 and thereafter for married, retired women. This data is based on the American Time Use Survey published by the Bureau of Labor Statistics, www.bls.gov/tus, usefully summarized in a publication by Expectancy Data, The Dollar Value of A Day: 2017 Dollar Valuation, Shawnee Mission, KS, 2018.

The hourly value of the housekeeping and household management services is based on the mean hourly earnings of painters, construction and maintenance; childcare workers; waiters and waitresses; cooks, private household; laundry and dry-cleaning workers; maids and housekeeping cleaners; landscaping and groundskeeping workers; bookkeeping, accounting and auditing clerks; and taxi drivers and chauffeurs, which is \$15.30 per hour in year 2018 dollars. This wage data is based on information from the U.S. Bureau of Labor Statistics, Occupational Employment

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Statistics, May 2018 National Occupational Employment and Wage Statistics found at www.bls.gov/oes. This figure is corroborated by the average hourly values published by Expectancy Data, The Dollar Value of A Day: 2017 Dollar Valuation, Shawnee Mission, KS, 2018, which is also based on the BLS Occupational Employment Statistics.

I assess such services at their estimated market value which includes a conservative estimate of 50 percent hourly non-wage component reasonably charged by agencies or free-lance individuals who supply such services on a part-time basis, and who are responsible for advertising, hiring and vetting, training, insuring and bonding the part-time service provider, and who are also responsible for pay-related costs such as social security contributions, etc. If a person were to hire a free-lance employee directly instead of going through an agency, then he or she would have to take on the responsibility for all the non-wage costs that the agency would otherwise incur and then charge for. The money the person would pay directly in wages would be only a portion of the total costs. The total costs would include those items discussed above that the agency would otherwise incur.

Adding the non-wage component to the hourly wage is consistent with labor market theory and competitive market behavior. Peer-reviewed economic research supports this theory and shows that the non-wage costs can average up to 300 percent for the wage. See, for example, Cushing, Matthew J. and David I. Rosenbaum, "Valuing Household Services: A New Look at the Replacement Cost Approach," Journal of Legal Economics, Vol 19, No. 1, 2012, pp. 37-60, wherein the authors found that non-wage costs exceed wage costs by 167 percent. This is more than triple the 50 percent non-wage costs amount I use, discussed above. Also see Smith, David A., Stan V. Smith, and Stephanie R. Uhl, "Estimating the Value of Family Household Management Services: Approaches and Markups," Forensic Rehabilitation & Economics, Vol 3, No. 2, 2010, pp. 85-94. According to this research, the statistical probability is 99 percent that the non-wage costs exceed 250 percent of the wage cost. The use of only a 50 percent non-wage cost makes my estimate very conservative, and it far more than compensates for two possible variations: variations in the national wage depending on locality, and variations in different types of services actually performed in the household. Thus even if one or more of the different types of services are not performed, and even if the services are provided in low wage areas, my use of the low, 50 percent non-wage costs more than compensates for these factors.

According to Merry Maids, a national home cleaning service agency, the charges for their services within the largest 100 Metropolitan Statistical Areas with populations of 500,000 and up range from \$40 to \$65 per hour, averaging \$49 per hour, in 2012.

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This hourly rate reflects non-wage costs of 250 percent of wages, and after adjusting for market factors, is four times the non-wage costs figure that I use, resulting in an hourly rate of more than double the rate that I use. Thus my use of only a 50 percent addition for non-wage costs is, in fact, very conservative. The hourly value of these services grows at the same rate as the wage growth rate discussed above.

Based on these assumptions, and Dora Menchaca's life expectancy of 82.9 years, my opinion of the loss of the value of housekeeping and household management services is \$1,003,716 ► Table 12.

IV. LOSS OF VALUE OF LIFE

Tables 13 through 15 show the loss of the value of life. Economists have long agreed that life is valued at more than the lost earnings capacity. My estimate of the value of life is based on many economic studies on what we, as a contemporary society, actually pay to preserve the ability to lead a normal life. The studies examine incremental pay for risky occupations as well as a multitude of data regarding expenditure for life savings by individuals, industry, and state and federal agencies. Based on the average value of a statistical life and life expectancy of 82.9 years, my opinion of the loss of the value of life for Dora Menchaca is \$4,725,467 ► Table 15.

My estimate of the value of life is consistent with estimates published in other studies that examine and review the broad spectrum of economic literature on the value of life. Among these is "The Plausible Range for the Value of Life," Journal of Forensic Economics, Vol. 3, No. 3, Fall 1990, pp. 17-39, by T. R. Miller. This study reviews 67 different estimates of the value of life published by economists in peer-reviewed academic journals. The Miller results, in most instances, show the value of life to range from approximately \$1.6 million to \$2.9 million dollars in year 1988 after-tax dollars, with a mean of approximately \$2.2 million dollars. In "The Value of Life: Estimates with Risks by Occupation and Industry," Economic Inquiry, Vol. 42, No. 1, May 2003, pp. 29-48, Professor W. K. Viscusi estimates the value of life to be approximately \$4.7 million dollars in year 2000 dollars. An early seminal paper on the value of life was written by Richard Thaler and Sherwin Rosen, "The Value of Saving a Life: Evidence from the Labor Market." in N.E. Terlickyj (ed.), Household Production and Consumption. New York: Columbia University Press, 1975, pp. 265-300. The Meta-Analyses Appendix to this report reviews additional literature suggesting a value of life of approximately \$5.4 million in year 2008 dollars.

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Because it is generally accepted by economists, the economic methodology for the valuation of life has been found to meet the Daubert and Frye standards by many courts, along with the Rules of Evidence in many states nationwide. My testimony on the value of life has been accepted in approximately 225 state and federal cases nationwide in approximately two-thirds of the states and two-thirds of the federal jurisdictions. Testimony has been accepted by U.S. district and appellate courts as well as in state circuit, appellate, and supreme courts. Proof of general acceptance and other standards is found in a discussion of the extensive references to the scientific economic peer-reviewed literature on the value of life listed in the **Value of Life Appendix** to this report.

The underlying, academic, peer-reviewed studies fall into two general groups: (1) consumer behavior and purchases of safety devices; (2) wage risk premiums to workers; in addition, there is a third group of studies consisting of cost-benefit analyses of regulations. For example, one consumer safety study analyzes the costs of smoke detectors and the lifesaving reduction associated with them. One wage premium study examines the differential rates of pay for dangerous occupations with a risk of death on the job. Just as workers receive shift premiums for undesirable work hours, workers also receive a higher rate of pay to accept a increased risk of death on the job. A study of government regulation examines the lifesaving resulting from the installation of smoke stack scrubbers at high-sulphur, coal-burning power plants. As a hypothetical example of the methodology, assume that a safety device such as a carbon monoxide detector costs \$46 and results in lowering a person's risk of premature death by one chance in 100,000. The cost per life saved is obtained by dividing \$46 by the one in 100,000 probability, yielding \$4,600,000. Overall, based on the peer-reviewed economic literature, I estimate the central tendency of the range of the economic studies to be approximately \$4.9 million in year 2019 dollars.

Other factors may be weighed to determine if these estimated losses for Dora Menchaca should be adjusted because of special qualities or circumstances that economists do not as yet have a methodology for analysis.

In each set of tables, the estimated losses are calculated from September 11, 2001 through an assumed trial or resolution date of January 1, 2020, and from that date thereafter. The last table in each set accumulates the past and future estimated losses. These estimates are provided as a tool, an aid, and a guide to assist the evaluation by others.

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All opinions expressed in this report are clearly labeled as such. They are rendered in accordance with generally accepted standards within the field of economics and are expressed to a reasonable degree of economic certainty. Estimates, assumptions, illustrations and the use of benchmarks, which are not opinions, but which can be viewed as hypothetical in nature, are also clearly disclosed and identified herein.

In my opinion, it is reasonable for experts in the field of economics and finance to rely on the materials and information I reviewed in this case for the formulation of my substantive opinions herein.

If additional information is provided to me, which could alter my opinions, I may incorporate any such information into an update, revision, addendum, or supplement of the opinions expressed in this report.

If you have any questions, please do not hesitate to call me.

Sincerely,



Stan V. Smith, Ph.D.
President

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APPENDIX: HOUSEHOLD SERVICES VALUATION

Courts have long recognized claims for the value of tangible household family services as an element of damages in personal injury and wrongful death cases, as an aspect of the pecuniary loss in such cases. These services are those that are provided by the injured family member to himself or herself and to other family members, without charge or cost. Other family members who may receive such services can include spouses, children, parents or siblings; such family members do not necessarily have to reside in the same household to receive such services.

Economists and courts have also long recognized that an appropriate method in valuing such tangible services is to value their estimated market-based costs by examining costs paid in labor markets that provide generally comparable services for. Thus, economists can value the service by looking at market equivalents from which a pecuniary standard can be established. This approach is set forth in the 1913 U.S. Supreme Court Decision, Michigan Central Railroad Company v. Vreeland, 227 U.S. 59 (1913). So this method is a century old.

The Supreme Court's suggesting in valuing compensable services in the Vreeland decision is a standard that is not rigid, but actually rather general: "[The] pecuniary loss or damage must be one which can be measured by some standard.... Compensation for such loss manifestly does not include damages by way of recompense for grief or wounded feelings." Michigan Central v. Vreeland.

Examples of lost household services that used to be performed by persons (whether fatally or non-fatally injured) can include physical chores such as mowing the lawn, painting the house, cleaning the windows, doing the laundry, washing and repairing the car, preparing the meals and doing the dishes, among others. For many decades economists have met the Supreme Court's general standard by using labor market equivalents for cooks, laundry workers, gardeners, maids, etc. in valuing the physical chores regarding housekeeping services.

Additionally, economists have recognized that tangible services to family members include services well beyond the physical housekeeping chores. For example, William G. Jungbauer and Mark J. Odegard, in Maximizing Recovery in FELA Wrongful Death Actions, in Assessing Family Loss in Wrongful Death Litigation: The Special Roles of Lost Services and Personal Consumption, Lawyers & Judges Publishing Co., 1999, pp. 284, indicate that a complete analysis of all services performed by family members includes much, much more than the physical housekeeping chores. Frank D. Tinari, in a peer-reviewed, scientific, economic journal article "Household Services: Toward a More Comprehensive Measure," Journal of Forensic Economics, Vol. 11, No. 3, Fall

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1998, pp. 253-265, expresses the same view. Dr. Tinari has been a tenured Professor at Seton Hall University, and is a former president of the National Association of Forensic Economics. There has been no peer-reviewed critique of this article since it appeared.

Jungbauer and Odegard indicate that a person may have provided services of many other professions such as that of a chauffeur, driving other family members to appointments, or that of a security guard, especially regarding the injury to a male spouse, etc. Every family member acts as a companion to other family members. And it is common for family members to act as counselors for one another, typically providing advice and counsel on important personal, family, medical, financial, career or other issues. The marketplace can and does value such items of loss. If the person cannot provide these services, or does so at a reduced capacity or rate, there is a distinct and definite loss to the other family members. These losses have a definite and easily measurable pecuniary value. Vreeland requires only that a "reasonable expectation" of loss of services be proven and that such loss be valued by some standard, presumably a reasonably-based economic standard, to allow recovery.

The economic literature on recovery of loss of services discusses an estimated market-oriented valuation cost method to assess the pecuniary value of the loss of accompaniment services, as well as the value of advice, guidance and counsel services that family members provide to one another, within a broadly defined scope of family services. See, for example, Frank D. Tinari, "Household Services: Toward a More Comprehensive Measure, " Journal of Forensic Economics, Vol. 11, No. 3, Fall 1998, pp. 253-265.

Finally, according to Chief Justice Robert Wilentz of the Supreme Court of New Jersey, in Green v. Bittner, 85 NJ 1, 1980, pp. 12, accompaniment services, to be compensable, must be that which would have provided services substantially equivalent to those provided by the companions often hired today by the aged or infirm, or substantially equivalent to services provided by nurses or practical nurses; and its value must be confined to what the marketplace would pay a stranger with similar qualifications for performing such services.

In valuing the household services that are provided by family members to one another, beyond the physical housekeeping chores, both the U.S Supreme Court and the New Jersey Supreme Court discuss looking at labor markets for the equivalent value of such services. This methodology is identical to the traditional approach that economists have been using for over four decades in valuing the physical chores involved in housekeeping services.

5206

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APPENDIX: VALUE OF LIFE

The economic methodology for the valuation of life has been found to meet the Daubert and Frye standards by many courts, along with the Rules of Evidence in many states nationwide. My testimony on the value of life has been accepted in approximately 225 state and federal cases nationwide in approximately two-thirds of the states and two-thirds of the federal jurisdictions. Testimony has been accepted by U.S. district and appellate courts as well as in state circuit, appellate, and supreme courts. The Daubert standard sets forth four criteria:

1. Testing of the theory and science
2. Peer Review
3. Known or potential rate of error
4. Generally accepted.

Testing of the theory and science has been accomplished over the past four decades, since the 1960s. Dozens of economists of high renown have published over a hundred articles in high quality, peer-reviewed economic journals measuring the value of life. The value of life theories are perhaps among the most well-tested in the field of economics, as evidenced by the enormous body of economic scientific literature that has been published in the field and is discussed below.

Peer Review of the concepts and methodology have been extraordinarily extensive. One excellent review of this extensive, peer-reviewed literature can be found in "The Value of Risks to Life and Health," W. K. Viscusi, Journal of Economic Literature, Vol. 31, December 1993, pp. 1912-1946. A second is "The Value of a Statistical Life: A Critical Review of Market Estimates throughout the World." W. K. Viscusi and J. E. Aldy, Journal of Risk and Uncertainty, Vol. 27, No. 1, November 2002, pp. 5-76. Additional theoretical and empirical work by Viscusi, a leading researcher in the field, can be found in: "The Value of Life", W. K. Viscusi, John M. Olin Center for Law, Economics, and Business, Harvard Law School, Discussion Paper No. 517, June 2005. An additional peer-reviewed article discusses the application to forensic economics: "The Plausible Range for the Value of Life," T. R. Miller, Journal of Forensic Economics, Vol. 3, No. 3, Fall 1990, pp. 17-39, which discusses the many dozens of articles published in other peer-reviewed economic journals on this topic. This concept is discussed in detail in "Willingness to Pay Comes of Age: Will the System Survive?" T. R. Miller, Northwestern University Law Review, Summer 1989, pp. 876-907, and "Hedonic Damages in Personal Injury and Wrongful Death

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Litigation," by Stan V. Smith in Gaughan and Thornton, eds., Litigation Economics, Contemporary Studies in Economic and Financial Analysis, Vol. 74, pp. 39-59, JAI Press, Greenwich, CT, 1993. Kenneth Arrow, a Nobel Laureate in economics, discusses this method for valuing life in "Invaluable Goods," Journal of Economic Literature, Vol. 35, No. 2, 1997, pp. 759. See the Meta-Analyses Appendix for an additional review of the literature.

The known or potential rate of error is well researched. All of these articles discuss the known or potential rate of error, well within the acceptable standard in the field of economics, generally using a 95% confidence rate for the statistical testing and acceptance of results. There are few areas in the field of economics where the known or potential rate of error has been as well-accepted and subject to more extensive investigation.

General Acceptance of the concepts and methodology on the value of life in the field of economics is extensive. This methodology is and has been generally accepted in the field of economics for many years. Indeed, according to the prestigious and highly-regarded research institute, The Rand Corporation, by 1988, the peer-reviewed scientific methods for estimating the value of life were well-accepted: "Most economists would agree that the willingness-to-pay methodology is the most conceptually appropriate criterion for establishing the value of life," Computing Economic loss in Cases of Wrongful Death, King and Smith, Rand Institute for Civil Justice, R-3549-ICJ, 1988.

While first discussed in cutting edge, peer-reviewed economic journals, additional proof of general acceptance is now indicated by the fact that this methodology is now taught in standard economics courses at the undergraduate and graduate level throughout hundreds of colleges and universities nationwide as well as the fact that it is taught and discussed in widely-accepted textbooks in the field of law and economics: Economics, Sixth Edition, David C. Colander, McGraw-Hill Irwin, Boston, 2006, pp. 463-465; this introductory economics textbook is the third most widely used textbook in college courses nationwide. Hamermesh and Rees's The Economics of Work and Pay, Harper-Collins, 1993, Chapter 13, a standard advanced textbook in labor economics, also discusses the methodology for valuing life. Other textbooks discuss this topic as well. Richard Posner, a Judge and former Chief Judge of the U.S. Court of Appeals for the highly regarded 7th Circuit and Senior Lecturer at the University of Chicago Law School, one of most prolific legal writers in America, details the Value of Life approach in his widely used textbooks: Economic Analysis of Law, 1986, Little Brown & Co., pp. 182-185 and Tort Law, 1982, Little Brown & Co., pp. 120-126.

As further evidence of general acceptance in the field, some surveys (albeit non-scientific) published in the field of

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forensic economics show that hundreds of economists nationwide are now familiar with this methodology and are available to prepare (and critique) forensic economic value of life estimates. Indeed, some economists who indicate they will prepare such analysis for plaintiffs also are willing to critique such analysis for defendants, as I have done. That an economist is willing to critique a report does not indicate that he or she is opposed to the concept or the methodology, but merely available to assure that the plaintiff economist has employed proper techniques. The fact that there are economists who indicate they do not prepare estimates of value of life is again no indication that they oppose the methodology: many claim they are not familiar with the literature and untrained in this area. While some CPAs and others without a degree in economics have opposed these methods, such professionals do not have the requisite academic training and are unqualified to make such judgements. However, as in any field of economics, this area is not without any dissent. General acceptance does not mean universal acceptance.

Additional evidence of general acceptance in the field is found in the teaching of the concepts regarding the value of life. Forensic Economics is now taught as a special field in a number of institutions nationwide. I taught what is believed to be the first course ever presented in the field of Forensic Economics at DePaul University in Spring, 1990. My own book, Economic/Hedonic Damages, Anderson, 1990, and supplemental updates thereto, co-authored with Dr. Michael Brookshire, a Professor of Economics in West Virginia, has been used as a textbook in at least 5 colleges and universities nationwide in such courses in economics, and has a thorough discussion of the methodology. Toppino et. al., in "Forensic Economics in the Classroom," published in The Earnings Analyst, Journal of the American Rehabilitation Economics Association, Vol. 4, 2001, pp. 53-86, indicate that hedonic damages is one of 15 major topic areas taught in such courses.

Lastly, general acceptance is found by examining publications in the primary journal in the field of Forensic Economics, which is the peer-reviewed Journal of Forensic Economics, where there have been published many articles on the value of life. Some are cited above. Others include: "The Econometric Basis for Estimates of the Value of Life," W. K. Viscusi, Vol 3, No. 3, Fall 1990, pp. 61-70; "Hedonic Damages in the Courtroom Setting." Stan V. Smith, Vol. 3, No. 3, Fall 1990, pp. 41-49; "Issues Affecting the Calculated Value of Life," E. P. Berla, M. L. Brookshire and Stan V. Smith, Vol 3, No. 1, 1990, pp. 1-8; "Hedonic Damages and Personal Injury: A Conceptual Approach." G. R. Albrecht, Vol. 5., No. 2, Spring/Summer 1992, pp. 97-104; "The Application of the Hedonic Damages Concept to Wrongful and Personal Injury Litigation." G. R. Albrecht, Vol. 7, No. 2, Spring/Summer 1994, pp. 143-150; and also "A Review of the Monte Carlo Evidence Concerning Hedonic Value of Life Estimates," R. F.

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Gilbert, Vol. 8, No. 2, Spring/Summer 1995, pp. 125-130. Professor Ike Mathur, while Chairman of the Department of Finance at Southern Illinois University wrote an article on how the value of life studies can be used to provide a basis for estimating the value of life per year in application to litigation. This article corroborates my approach: "Estimating Value of Life per Life Year." I. Mathur, Journal of Forensic Economics, Vol. 3, No. 3, 1990, pp. 95-96. As do many of the authors of applications of the value of life literature to litigation economics, Professor Mathur has frequently testified in court, and courts have admitted his testimony.

It is important to note that this methodology is endorsed and employed by the U. S. Government as the standard and recommended approach for use by all U. S. Agencies in valuing life for policy purposes, as mandated in current and past Presidential Executive Orders in effect since 1972, and as discussed in "Report to Congress on the Costs and Benefits of Federal Regulations," Office of Management and Budget, 1998, and "Economic Analysis of Federal Regulations Under Executive Order 12866," Executive Office of the President, Office of Management and Budget, pp. 1-37, and "Report to the President on Executive Order No. 12866," Regulatory Planning and Review, May 1, 1994, Office of Information and Regulatory Affairs, Office of Management and Budget. Prior presidents signed similar orders as discussed in "Federal Agency Valuations of Human life," Administrative Conference of the United States, Report for Recommendation 88-7, December 1988, pp. 368-408. 926

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APPENDIX: META-ANALYSES AND VALUE OF LIFE RESULTS SINCE 2000

Below I list the principal systematic reviews (meta-analyses), since the year 2000, of the value of life literature, and the values of a statistical life that they recommend. In statistics, a meta-analysis combines the results of several studies that address a set of related research hypotheses. Meta-analysis increase the statistical power of studies by analyzing a group of studies and provide a more powerful and accurate data analysis than would result from analyzing each study alone. Based on those reviews, the Summary Table suggests a best estimate. The following table summarizes the studies and their findings.

These statistically based studies place the value between \$4.4 and \$7.5 million, with \$5.9 million in year 2005 dollars representing a conservative yet credible estimate of the average (and range midpoint) of the values of a statistical life published in the studies in year 2005 dollars. Net of human capital, a credible net value of life based on all these literature reviews to be \$4.8 million in year 2005 dollars, or \$5.4 million in year 2008 dollars.

The actual value that I use, \$4.1 million in year 2008 dollars (\$4.9 million in year 2019 dollars) is approximately 24 percent lower than a conservative average estimate based on the credible meta-analyses. This value was originally based on a review conducted in the late 1980s, averaging the results published by that time. I have increased that late 1980s value only by inflation over time, despite the fact a review of literature over the years since that time has put obvious upward pressure on the figure that I use.

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VALUE OF STATISTICAL LIFE SUMMARY TABLE

Mean and range of value of statistical life estimates (in 2005 dollars) from the best meta-analyses and systematic reviews since 2000 and characteristics of those reviews.

Study	Formal Meta-Analysis?	Number of Values	Best Estimate (2005 Dollars)	Range	Context
Miller 2000	Yes	68 estimates	\$5.1M	\$4.5-\$6.2M	US estimate from all
Mrozek & Taylor 2002	Yes	203 estimates	\$4.4M	+ or - 35%	Labor market
Viscusi & Aldy 2003	Yes	49 estimates	\$6.5M	\$5.1-\$9.6M	Labor market, US estimate from all
Kochi et al. 2006	Yes	234 estimates	\$6.0M	+ or - 44%	Labor market survey
Bellavance 2006 (published in 2009)	Yes	37 estimates	\$7.5M	+ or - 19%	Labor market

Adapted from Ted R. Miller's paper "Hedonic Damages," Journal of Forensic Economics, Vol. 20, No. 2 (October 2008), pp. 137-153.

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Miller (2000) started from the Miller 1989 JFE estimates and used statistical methods to adjust for differences between studies. It also added newer studies, primarily ones outside the United States. The authors specified the most appropriate study approach a priori, which allowed calculation of a best estimate from the statistical regression. Miller, Ted R, "Variations between Countries in Values of Statistical Life", Journal of Transport Economics and Policy, Vol. 34, No. 2 (May 2000), pp. 169-188.

Mrozek and Taylor (2002) searched intensively for studies of the value of life implied by wages paid for risky jobs. They coded all values from each study rather than a most appropriate estimate. A statistical analysis identified what factors accounted for the differences in values between studies. The authors specified the most appropriate study approach a priori, which allowed calculation of a best estimate from the statistical regression. Mrozek, Janusz R. and Laura O. Taylor, "What Determines the Value of Life? A Meta-Analysis", Journal of Policy Analysis and Management, Vol. 21, No. 2 (2002), pp. 253-270.

Viscusi and Aldy (2003) focused on values from labor market studies that they considered of high quality and that provided data on risk levels and other important explanatory variables. They used statistical methods to account for variations between studies and derive a best estimate. W.K. Viscusi and J.E. Aldy, "The Value of a Statistical Life: A Critical Review of Market Estimates Throughout the World", Journal of Risk and Uncertainty, Vol. 27, No. 1 (2003), pp. 5-76.

Kochi et al. (2006) searched intensively for studies of the value of life implied by wages and coded all values from each study rather than a most appropriate estimate. They did not filter study quality carefully. The best estimate was derived by statistical methods based on the distribution of the values within and across studies. Kochi, Ikuho, Bryan Hubbell, and Randall Kramer, "An Empirical Bayes Approach to Combining and Comparing Estimates of the Value of a Statistical Life for Environmental Policy Analysis", Environmental and Resource Economics, Vol. 34 (2006), pp. 385-406.

Bellavance et al. (2009) focused on values from labor market studies that they considered of high quality and that provided data on risk levels and other important explanatory variables. They used statistical methods to account for variations between studies and derive a best estimate. Bellavance, Francois, Georges Dionne, and Martin Lebeau, "The Value of a Statistical Life: A Meta-Analysis with a Mixed Effects Regression Model," Journal of Health Economics, Vol. 28, Issue 2, (2009), pp. 444-464. 3A22

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SUMMARY OF LOSSES FOR DORA MENCHACA, PH.D.

TABLE *****	DESCRIPTION *****	ESTIMATE *****
	<u>EARNINGS</u>	
	LOSS OF WAGES & BENEFITS, NET OF PERSONAL CONSUMPTION	
9	Annual Employment to age 67	\$16,161,117

	<u>UNEXERCISED STOCK OPTIONS</u>	
	VALUE OF STOCK OPTIONS	\$ 2,935,786

	<u>HOUSEHOLD/FAMILY SERVICES</u>	
12	LOSS OF HOUSEHOLD/FAMILY HOUSEKEEPING AND HOME MANAGEMENT SERVICES	\$ 1,003,716

	<u>LOSS OF ENJOYMENT OF LIFE</u>	
15	LOSS OF VALUE OF LIFE	\$ 4,725,467

The information on this Summary of Losses is intended to summarize losses under certain given assumptions. Please refer to the report and the tables for all the opinions.

Table 1

LOSS OF PAST WAGES

2001 - 2019

YEAR	AGE	WAGES	CUMULATE
*****	***	*****	*****
2001	45	\$44,292	\$44,292
2002	46	541,987	586,279
2003	47	570,537	1,156,816
2004	48	595,703	1,752,519
2005	49	613,812	2,366,331
2006	50	637,698	3,004,029
2007	51	663,731	3,667,760
2008	52	683,259	4,351,019
2009	53	690,440	5,041,459
2010	54	698,909	5,740,368
2011	55	702,510	6,442,878
2012	56	743,734	7,186,612
2013	57	743,734	7,930,346
2014	58	762,825	8,693,171
2015	59	781,619	9,474,790
2016	60	798,309	10,273,099
2017	61	822,362	11,095,461
2018	62	846,408	11,941,869
2019	63	871,801	\$12,813,670
MENCHACA		\$12,813,670	

Table 2

LOSS OF PAST EMPLOYEE BENEFITS
2001 - 2019

YEAR	AGE	EMPLOYEE BENEFITS	CUMULATE
****	***	*****	*****
2001	45	\$4,850	\$4,850
2002	46	59,348	64,198
2003	47	62,474	126,672
2004	48	65,229	191,901
2005	49	67,212	259,113
2006	50	69,828	328,941
2007	51	72,679	401,620
2008	52	74,817	476,437
2009	53	75,603	552,040
2010	54	76,531	628,571
2011	55	76,925	705,496
2012	56	81,439	786,935
2013	57	81,439	868,374
2014	58	83,529	951,903
2015	59	85,587	1,037,490
2016	60	87,415	1,124,905
2017	61	90,049	1,214,954
2018	62	92,682	1,307,636
2019	63	95,462	\$1,403,098
MENCHACA		\$1,403,098	

Table 3

LOSS OF PAST PERSONAL CONSUMPTION

2001 - 2019

YEAR	AGE	PERSONAL CONSUMPTION	CUMULATE
*****	***	*****	*****
2001	45	-\$4,473	-\$4,473
2002	46	-54,741	-59,214
2003	47	-57,624	-116,838
2004	48	-60,166	-177,004
2005	49	-70,159	-247,163
2006	50	-72,889	-320,052
2007	51	-75,864	-395,916
2008	52	-78,097	-474,013
2009	53	-78,917	-552,930
2010	54	-79,885	-632,815
2011	55	-80,297	-713,112
2012	56	-85,009	-798,121
2013	57	-85,009	-883,130
2014	58	-87,191	-970,321
2015	59	-89,339	-1,059,660
2016	60	-91,247	-1,150,907
2017	61	-93,996	-1,244,903
2018	62	-96,744	-1,341,647
2019	63	-125,714	-\$1,467,361
MENCHACA		-\$1,467,361	

Table 4

ECONOMIC LOSS TO DATE
2001 - 2019

YEAR	AGE	WAGES	EMPLOYEE BENEFITS	PERSONAL CONSUMPTION	TOTAL	CUMULATE
****	***	*****	*****	*****	*****	*****
2001	45	\$44,292	\$4,850	-\$4,473	\$44,669	\$44,669
2002	46	541,987	59,348	-54,741	546,594	591,263
2003	47	570,537	62,474	-57,624	575,387	1,166,650
2004	48	595,703	65,229	-60,166	600,766	1,767,416
2005	49	613,812	67,212	-70,159	610,865	2,378,281
2006	50	637,698	69,828	-72,889	634,637	3,012,918
2007	51	663,731	72,679	-75,864	660,546	3,673,464
2008	52	683,259	74,817	-78,097	679,979	4,353,443
2009	53	690,440	75,603	-78,917	687,126	5,040,569
2010	54	698,909	76,531	-79,885	695,555	5,736,124
2011	55	702,510	76,925	-80,297	699,138	6,435,262
2012	56	743,734	81,439	-85,009	740,164	7,175,426
2013	57	743,734	81,439	-85,009	740,164	7,915,590
2014	58	762,825	83,529	-87,191	759,163	8,674,753
2015	59	781,619	85,587	-89,339	777,867	9,452,620
2016	60	798,309	87,415	-91,247	794,477	10,247,097
2017	61	822,362	90,049	-93,996	818,415	11,065,512
2018	62	846,408	92,682	-96,744	842,346	11,907,858
2019	63	871,801	95,462	-125,714	841,549	\$12,749,407
MENCHACA		\$12,813,670	\$1,403,098	-\$1,467,361	\$12,749,407	

Table 5

PRESENT VALUE OF FUTURE WAGES
2020 - 2039

YEAR	AGE	WAGES	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	*****	*****	*****	*****
2020	64	\$897,955	0.98765	\$886,865	\$886,865
2021	65	906,935	0.97546	884,679	1,771,544
2022	66	916,004	0.96342	882,497	2,654,041
2023	67	925,164	0.95152	880,312	3,534,353
2024	68	934,416	0.93978	878,145	4,412,498
2025	69	943,760	0.92817	875,970	5,288,468
2026	70	953,198	0.91672	873,816	6,162,284
2027	71	962,730	0.90540	871,656	7,033,940
2028	72	972,357	0.89422	869,501	7,903,441
2029	73	982,081	0.88318	867,354	8,770,795
2030	74	991,902	0.87228	865,216	9,636,011
2031	75	1,001,821	0.86151	863,079	10,499,090
2032	76	1,011,839	0.85087	860,943	11,360,033
2033	77	1,021,957	0.84037	858,822	12,218,855
2034	78	1,032,177	0.82999	856,697	13,075,552
2035	79	1,042,499	0.81975	854,589	13,930,141
2036	80	1,052,924	0.80963	852,479	14,782,620
2037	81	1,063,453	0.79963	850,369	15,632,989
2038	82	1,074,088	0.78976	848,272	16,481,261
2039	83	353,684	0.78655	278,190	\$16,759,451

DORA MENCHACA

\$16,759,451

Table 6

PRESENT VALUE OF FUTURE EMPLOYEE BENEFITS
2020 - 2039

YEAR	AGE	EMPLOYEE BENEFITS	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	*****	*****	*****	*****
2020	64	\$98,326	0.98765	\$97,112	\$97,112
2021	65	99,309	0.97546	96,872	193,984
2022	66	100,302	0.96342	96,633	290,617
2023	67	101,305	0.95152	96,394	387,011
2024	68	102,319	0.93978	96,157	483,168
2025	69	103,342	0.92817	95,919	579,087
2026	70	104,375	0.91672	95,683	674,770
2027	71	105,419	0.90540	95,446	770,216
2028	72	106,473	0.89422	95,210	865,426
2029	73	107,538	0.88318	94,975	960,401
2030	74	108,613	0.87228	94,741	1,055,142
2031	75	109,699	0.86151	94,507	1,149,649
2032	76	110,796	0.85087	94,273	1,243,922
2033	77	111,904	0.84037	94,041	1,337,963
2034	78	113,023	0.82999	93,808	1,431,771
2035	79	114,154	0.81975	93,578	1,525,349
2036	80	115,295	0.80963	93,346	1,618,695
2037	81	116,448	0.79963	93,115	1,711,810
2038	82	117,613	0.78976	92,886	1,804,696
2039	83	38,728	0.78655	30,462	\$1,835,158

DORA MENCHACA

\$1,835,158

Table 7

PRESENT VALUE OF FUTURE PERSONAL CONSUMPTION
2020 - 2039

YEAR	AGE	PERSONAL CONSUMPTION	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	*****	*****	*****	*****
2020	64	-\$129,485	0.98765	-\$127,886	-\$127,886
2021	65	-130,780	0.97546	-127,571	-255,457
2022	66	-132,088	0.96342	-127,256	-382,713
2023	67	-133,409	0.95152	-126,941	-509,654
2024	68	-134,743	0.93978	-126,629	-636,283
2025	69	-136,090	0.92817	-126,315	-762,598
2026	70	-137,451	0.91672	-126,004	-888,602
2027	71	-138,826	0.90540	-125,693	-1,014,295
2028	72	-140,214	0.89422	-125,382	-1,139,677
2029	73	-141,616	0.88318	-125,072	-1,264,749
2030	74	-143,032	0.87228	-124,764	-1,389,513
2031	75	-144,463	0.86151	-124,456	-1,513,969
2032	76	-145,907	0.85087	-124,148	-1,638,117
2033	77	-147,366	0.84037	-123,842	-1,761,959
2034	78	-148,840	0.82999	-123,536	-1,885,495
2035	79	-150,328	0.81975	-123,231	-2,008,726
2036	80	-151,832	0.80963	-122,928	-2,131,654
2037	81	-153,350	0.79963	-122,623	-2,254,277
2038	82	-154,883	0.78976	-122,320	-2,376,597
2039	83	-51,001	0.78655	-40,115	-\$2,416,712
DORA MENCHACA				-\$2,416,712	

Table 8

PRESENT VALUE OF FUTURE WAGE AND BENEFIT LOSS
2020 - 2039

YEAR	AGE	WAGES	EMPLOYEE BENEFITS	PERSONAL CONSUMPTION	TOTAL	CUMULATE
****	***	*****	*****	*****	*****	*****
2020	64	\$886,865	\$97,112	-\$127,886	\$856,091	\$856,091
2021	65	884,679	96,872	-127,571	853,980	1,710,071
2022	66	882,497	96,633	-127,256	851,874	2,561,945
2023	67	880,312	96,394	-126,941	849,765	3,411,710
2024	68	878,145	96,157	-126,629	847,673	4,259,383
2025	69	875,970	95,919	-126,315	845,574	5,104,957
2026	70	873,816	95,683	-126,004	843,495	5,948,452
2027	71	871,656	95,446	-125,693	841,409	6,789,861
2028	72	869,501	95,210	-125,382	839,329	7,629,190
2029	73	867,354	94,975	-125,072	837,257	8,466,447
2030	74	865,216	94,741	-124,764	835,193	9,301,640
2031	75	863,079	94,507	-124,456	833,130	10,134,770
2032	76	860,943	94,273	-124,148	831,068	10,965,838
2033	77	858,822	94,041	-123,842	829,021	11,794,859
2034	78	856,697	93,808	-123,536	826,969	12,621,828
2035	79	854,589	93,578	-123,231	824,936	13,446,764
2036	80	852,479	93,346	-122,928	822,897	14,269,661
2037	81	850,369	93,115	-122,623	820,861	15,090,522
2038	82	848,272	92,886	-122,320	818,838	15,909,360
2039	83	278,190	30,462	-40,115	268,537	\$16,177,897
MENCHACA		\$16,759,451	\$1,835,158	-\$2,416,712	\$16,177,897	

Table 9

PRESENT VALUE OF NET WAGE AND BENEFIT LOSS
2001 - 2039

YEAR	AGE	WAGES	EMPLOYEE BENEFITS	PERSONAL CONSUMPTION	TOTAL	CUMULATE
****	***	*****	*****	*****	*****	*****
2001	45	\$44,292	\$4,850	-\$4,473	\$44,669	\$44,669
2002	46	541,987	59,348	-54,741	546,594	591,263
2003	47	570,537	62,474	-57,624	575,387	1,166,650
2004	48	595,703	65,229	-60,166	600,766	1,767,416
2005	49	613,812	67,212	-70,159	610,865	2,378,281
2006	50	637,698	69,828	-72,889	634,637	3,012,918
2007	51	663,731	72,679	-75,864	660,546	3,673,464
2008	52	683,259	74,817	-78,097	679,979	4,353,443
2009	53	690,440	75,603	-78,917	687,126	5,040,569
2010	54	698,909	76,531	-79,885	695,555	5,736,124
2011	55	702,510	76,925	-80,297	699,138	6,435,262
2012	56	743,734	81,439	-85,009	740,164	7,175,426
2013	57	743,734	81,439	-85,009	740,164	7,915,590
2014	58	762,825	83,529	-87,191	759,163	8,674,753
2015	59	781,619	85,587	-89,339	777,867	9,452,620
2016	60	798,309	87,415	-91,247	794,477	10,247,097
2017	61	822,362	90,049	-93,996	818,415	11,065,512
2018	62	846,408	92,682	-96,744	842,346	11,907,858
2019	63	871,801	95,462	-125,714	841,549	12,749,407
2020	64	886,865	97,112	-127,886	856,091	13,605,498
2021	65	884,679	96,872	-127,571	853,980	14,459,478
2022	66	882,497	96,633	-127,256	851,874	15,311,352
2023	67	880,312	96,394	-126,941	849,765	16,161,117
2024	68	878,145	96,157	-126,629	847,673	17,008,790
2025	69	875,970	95,919	-126,315	845,574	17,854,364
2026	70	873,816	95,683	-126,004	843,495	18,697,859
2027	71	871,656	95,446	-125,693	841,409	19,539,268
2028	72	869,501	95,210	-125,382	839,329	20,378,597
2029	73	867,354	94,975	-125,072	837,257	21,215,854
2030	74	865,216	94,741	-124,764	835,193	22,051,047
2031	75	863,079	94,507	-124,456	833,130	22,884,177
2032	76	860,943	94,273	-124,148	831,068	23,715,245
2033	77	858,822	94,041	-123,842	829,021	24,544,266
2034	78	856,697	93,808	-123,536	826,969	25,371,235
2035	79	854,589	93,578	-123,231	824,936	26,196,171
2036	80	852,479	93,346	-122,928	822,897	27,019,068
2037	81	850,369	93,115	-122,623	820,861	27,839,929
2038	82	848,272	92,886	-122,320	818,838	28,658,767
2039	83	278,190	30,462	-40,115	268,537	\$28,927,304
MENCHACA		\$29,573,121	\$3,238,256	-\$3,884,073	\$28,927,304	

Table 10

LOSS OF PAST HOUSEHOLD SERVICES
2001 - 2019

YEAR	AGE	HOUSEHOLD SERVICES	CUMULATE
****	***	*****	*****
2001	45	\$4,480	\$4,480
2002	46	15,032	19,512
2003	47	15,824	35,336
2004	48	16,522	51,858
2005	49	17,025	68,883
2006	50	17,687	86,570
2007	51	18,409	104,979
2008	52	18,951	123,930
2009	53	19,150	143,080
2010	54	19,385	162,465
2011	55	19,485	181,950
2012	56	20,628	202,578
2013	57	20,628	223,206
2014	58	21,158	244,364
2015	59	21,679	266,043
2016	60	22,142	288,185
2017	61	22,809	310,994
2018	62	23,476	334,470
2019	63	23,664	\$358,134
MENCHACA		\$358,134	

Table 11

PRESENT VALUE OF FUTURE HOUSEHOLD SERVICES
2020 - 2039

YEAR	AGE	HOUSEHOLD SERVICES	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	*****	*****	*****	*****
2020	64	\$24,374	0.98765	\$24,073	\$24,073
2021	65	24,618	0.97546	24,014	48,087
2022	66	24,864	0.96342	23,954	72,041
2023	67	25,113	0.95152	23,896	95,937
2024	68	38,836	0.93978	36,497	132,434
2025	69	39,224	0.92817	36,407	168,841
2026	70	39,616	0.91672	36,317	205,158
2027	71	40,012	0.90540	36,227	241,385
2028	72	40,412	0.89422	36,137	277,522
2029	73	40,816	0.88318	36,048	313,570
2030	74	41,224	0.87228	35,959	349,529
2031	75	41,636	0.86151	35,870	385,399
2032	76	42,052	0.85087	35,781	421,180
2033	77	42,473	0.84037	35,693	456,873
2034	78	42,898	0.82999	35,605	492,478
2035	79	43,327	0.81975	35,517	527,995
2036	80	43,760	0.80963	35,429	563,424
2037	81	44,198	0.79963	35,342	598,766
2038	82	44,640	0.78976	35,255	634,021
2039	83	14,699	0.78655	11,561	\$645,582
DORA MENCHACA				\$645,582	

Table 12

PRESENT VALUE OF NET HOUSEHOLD SERVICE LOSS
2001 - 2039

YEAR	AGE	HOUSEHOLD SERVICES	CUMULATE
****	***	*****	*****
2001	45	\$4,480	\$4,480
2002	46	15,032	19,512
2003	47	15,824	35,336
2004	48	16,522	51,858
2005	49	17,025	68,883
2006	50	17,687	86,570
2007	51	18,409	104,979
2008	52	18,951	123,930
2009	53	19,150	143,080
2010	54	19,385	162,465
2011	55	19,485	181,950
2012	56	20,628	202,578
2013	57	20,628	223,206
2014	58	21,158	244,364
2015	59	21,679	266,043
2016	60	22,142	288,185
2017	61	22,809	310,994
2018	62	23,476	334,470
2019	63	23,664	358,134
2020	64	24,073	382,207
2021	65	24,014	406,221
2022	66	23,954	430,175
2023	67	23,896	454,071
2024	68	36,497	490,568
2025	69	36,407	526,975
2026	70	36,317	563,292
2027	71	36,227	599,519
2028	72	36,137	635,656
2029	73	36,048	671,704
2030	74	35,959	707,663
2031	75	35,870	743,533
2032	76	35,781	779,314
2033	77	35,693	815,007
2034	78	35,605	850,612
2035	79	35,517	886,129
2036	80	35,429	921,558
2037	81	35,342	956,900
2038	82	35,255	992,155
2039	83	11,561	\$1,003,716
MENCHACA		\$1,003,716	

Table 13

LOSS OF PAST VALUE OF LIFE TO DORA
2001 - 2019

YEAR	AGE	LVL	CUMULATE
****	***	*****	*****
2001	45	\$29,936	\$29,936
2002	46	100,782	130,718
2003	47	102,677	233,395
2004	48	106,024	339,419
2005	49	109,650	449,069
2006	50	112,436	561,505
2007	51	117,023	678,528
2008	52	117,128	795,656
2009	53	120,314	915,970
2010	54	122,119	1,038,089
2011	55	125,734	1,163,823
2012	56	127,921	1,291,744
2013	57	129,840	1,421,584
2014	58	130,827	1,552,411
2015	59	131,782	1,684,193
2016	60	134,510	1,818,703
2017	61	137,348	1,956,051
2018	62	139,971	2,096,022
2019	63	142,771	\$2,238,793
MENCHACA		\$2,238,793	

Table 14

PRESENT VALUE OF FUTURE LOSS OF VALUE OF LIFE TO DORA
2020 - 2039

YEAR	AGE	LVL	DISCOUNT FACTOR	PRESENT VALUE	CUMULATE
****	***	*****	*****	*****	*****
2020	64	\$145,626	0.98765	\$143,828	\$143,828
2021	65	145,626	0.97546	142,052	285,880
2022	66	145,626	0.96342	140,299	426,179
2023	67	145,626	0.95152	138,566	564,745
2024	68	145,626	0.93978	136,856	701,601
2025	69	145,626	0.92817	135,166	836,767
2026	70	145,626	0.91672	133,498	970,265
2027	71	145,626	0.90540	131,850	1,102,115
2028	72	145,626	0.89422	130,222	1,232,337
2029	73	145,626	0.88318	128,614	1,360,951
2030	74	145,626	0.87228	127,027	1,487,978
2031	75	145,626	0.86151	125,458	1,613,436
2032	76	145,626	0.85087	123,909	1,737,345
2033	77	145,626	0.84037	122,380	1,859,725
2034	78	145,626	0.82999	120,868	1,980,593
2035	79	145,626	0.81975	119,377	2,099,970
2036	80	145,626	0.80963	117,903	2,217,873
2037	81	145,626	0.79963	116,447	2,334,320
2038	82	145,626	0.78976	115,010	2,449,330
2039	83	47,478	0.78655	37,344	\$2,486,674

DORA MENCHACA

\$2,486,674

Table 15

PRESENT VALUE OF NET LOSS OF VALUE OF LIFE TO DORA
2001 - 2039

YEAR	AGE	LVL	CUMULATE
****	***	*****	*****
2001	45	\$29,936	\$29,936
2002	46	100,782	130,718
2003	47	102,677	233,395
2004	48	106,024	339,419
2005	49	109,650	449,069
2006	50	112,436	561,505
2007	51	117,023	678,528
2008	52	117,128	795,656
2009	53	120,314	915,970
2010	54	122,119	1,038,089
2011	55	125,734	1,163,823
2012	56	127,921	1,291,744
2013	57	129,840	1,421,584
2014	58	130,827	1,552,411
2015	59	131,782	1,684,193
2016	60	134,510	1,818,703
2017	61	137,348	1,956,051
2018	62	139,971	2,096,022
2019	63	142,771	2,238,793
2020	64	143,828	2,382,621
2021	65	142,052	2,524,673
2022	66	140,299	2,664,972
2023	67	138,566	2,803,538
2024	68	136,856	2,940,394
2025	69	135,166	3,075,560
2026	70	133,498	3,209,058
2027	71	131,850	3,340,908
2028	72	130,222	3,471,130
2029	73	128,614	3,599,744
2030	74	127,027	3,726,771
2031	75	125,458	3,852,229
2032	76	123,909	3,976,138
2033	77	122,380	4,098,518
2034	78	120,868	4,219,386
2035	79	119,377	4,338,763
2036	80	117,903	4,456,666
2037	81	116,447	4,573,113
2038	82	115,010	4,688,123
2039	83	37,344	\$4,725,467

MENCHACA \$4,725,467